WHAT IS CLAIMED IS:

1. A method of aligning a plurality of transmission lanes with a plurality of reception lanes in a data transmission system, comprising:

transmitting a plurality of control symbols and lane identifiers on each of the transmission lanes;

time–division multiplexing the control symbols and lane identifiers onto a data link;

demultiplexing the control symbols and lane identifiers onto the plurality of reception lanes;

monitoring one of the reception lanes for a control symbol;

upon receipt of a control symbol, awaiting receipt of a lane identifier;

upon receipt of a lane identifier, comparing the received lane identifier with the identity of the reception lane being monitored; and

rotating a lane assignment if the received lane identifier does not match the identity of the reception lane being monitored.

2. The method of claim 1 further comprising:

incrementing a bad lane identifier if the received lane identifier does not match the identity of the reception lane being scanned; and

wherein the step of rotating the lane assignment is conducted only if the bad lane identifier reaches a predetermined number.

3. The method of claim 2 further comprising:

resetting the bad lane identifier after rotating the lane assignment.

4. The method of claim 2 further comprising:

returning to monitoring the lane without rotating the lane assignment if, after incrementing, the bad lane identifier has not reached the predetermined number.

5. A method of aligning a plurality of transmission lanes with a plurality of reception lanes in a data transmission system, comprising

conducting link intialization or error recovery at a protocol–aware higher level of the architecture of the data transmission system, the link initialization or error recovery including the transmission of a plurality of ordered sets, at least one of the ordered sets including lane identifiers;

conducting link alignment at a protocol–unaware lower level in the architecture of the data transmission system, wherein the link alignment comprises the steps of:

receiving an ordered set on the plurality of reception lanes, the ordered set being transmitted by the protocol–aware higher level in accordance with a protocol associated with the higher level;

comparing a received lane identifier associated with the ordered set with an identity of a reception lane; and

rotating a lane assignment if the identity of the reception lane does not match the received lane identifier.

6. The method of claim 5 further comprising:

incrementing a bad lane identifier if the identity of the reception lane does not match the received lane identifier; and

wherein the step of rotating the lane assignment is conducted only if the bad lane identifier reaches a predetermined number.

7. The method of claim 6 further comprising:

resetting the bad lane identifier after rotating the lane assignment.

8. The method of claim 6 further comprising:

returning to monitoring the lane without rotating the lane assignment if, after incrementing, the bad lane identifier has not reached the predetermined number.

9. A method of conducting lane alignment comprising the steps of:

transmitting data on a plurality of transmission lanes by byte–striping the data across the transmission lanes;

time–division multiplexing the byte–striped data on the transmission lanes onto a data link;

transmitting a set of control symbols and lane identifiers in parallel on the transmission lanes;

time–division multiplexing the control symbols and lane identifiers on the transmission lanes onto the data link;

demultiplexing the time–division multiplexed byte–striped data onto a plurality of reception lanes;

demultiplexing the time–division multiplexed control symbols and lane identifiers onto the reception lanes;

monitoring one of the reception lanes for a control symbol and lane identifier;

comparing a received lane identifier with an identity of the lane being monitored; and

rotating a lane assignment if the lane identifier does not match the identity of the lane being monitored.

10. The method of claim 9 further comprising:

incrementing a bad lane identifier if the identity of the lane that is being monitored does not match the received lane identifier; and

wherein the step of rotating the lane assignment is conducted only if the bad lane identifier reaches a predetermined number.

11. The method of claim 10 further comprising:

resetting the bad lane identifier after rotating the lane assignment.

12. The method of claim 10 further comprising:

returning to monitoring the lane without rotating the lane assignment if, after incrementing, the bad lane identifier has not reached the predetermined number.

13. A computer network device comprising:

a plurality of time–division multiplexers to generate a plurality of transmitted time–division multiplexed signals;

a plurality of time–division demultiplexers to demultiplex a plurality of received time division multiplexed signals onto a plurality of sets of receive lanes; and

a control module for monitoring a receive lane, the control module in use:

monitoring the monitored receive lane for receipt of a lane identifier;

comparing a received lane identifier with an identity of the monitored receive lane; and

rotating a lane assignment within the set of receive lanes that includes the monitored lane if the received lane identifier does not match the identity of the monitored receive lane.

14. The computer network device of claim 13

wherein the control module increments a bad lane identifier if the received lane identifier does not match the identity of the monitored receive lane; and

wherein the rotation of the lane assignment is conducted only if the bad lane identifier reaches a predetermined value.

15. The computer network device of claim 14 wherein the control module resets the bad lane identifier after rotating the lane assignment.

16. The computer network device of claim 14 wherein the control module returns to monitoring the monitored receive lane without rotating the lane assignment if, after incrementing, the bad lane identifier has not reached the predetermined value.

17. The computer network device of claim 13 wherein the plurality of time–division multiplexers in use receive data that is byte streamed and control and identifier symbols that are transmitted in parallel.

18. The computer network device of claim 17 wherein the plurality of time–division multiplexers conduct time–division multiplexing at a bit level.

19. The computer network device of claim 13 wherein the control module operates at a protocol–unaware level of the computer network device, and wherein control and lane identifier symbols are transmitted by a protocol–aware level of the computer network device.

20. The computer network device of claim 19 wherein the protocol–aware level of the computer device operates on an Infiniband protocol.

21. The computer network device of claim 20 wherein the control module in use monitors the monitored receive lane for receipt of a COMMA control symbol.

22. The computer network device of claim 21 wherein the control module in use returns to monitoring the monitored receive lane if a lane identifier is not received after the COMMA control symbol.

23. The computer network device of claim 20 wherein in use a plurality of ordered sets are transmitted by the protocol–aware level upon link initialization, training or error recovery, at least one of the ordered sets including a lane identifier.